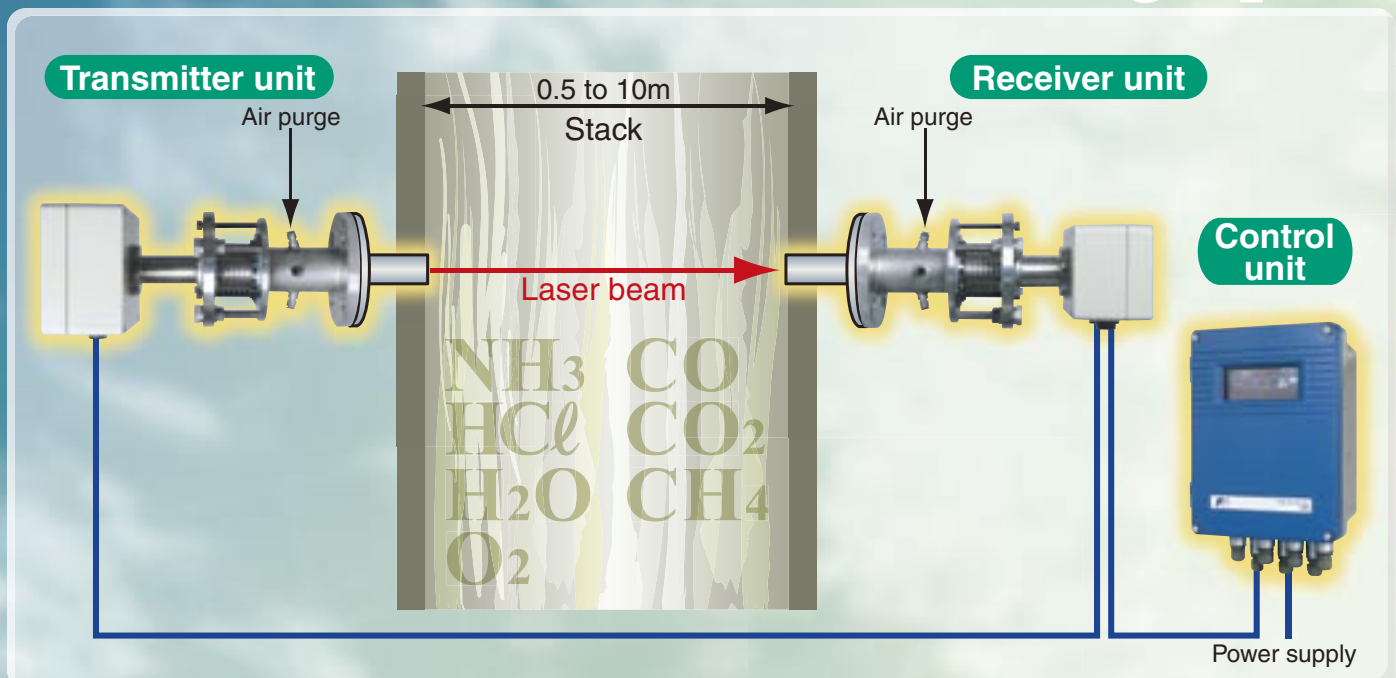


In-situ measurement

# Direct insertion type **ZSS**

Measure **NH<sub>3</sub>, HCl, H<sub>2</sub>O, O<sub>2</sub>, CO, CO<sub>2</sub>, and CH<sub>4</sub>** gas concentrations in a stack at high speed.



- Excellent long-term stability:  $\pm 2.0\%$ FS (zero drift)
- Ultra-high speed response: 1 to 5 seconds
- Direct insertion system eliminates the need for maintenance.
- Negligible interference by other gas components.
- A dual-component (HCl+H<sub>2</sub>O, NH<sub>3</sub>+H<sub>2</sub>O) measurement function for reference dry gas conversion
- Measurement in a high-temperature/high particulate concentration environment
- Energy-saving 75-VA power consumption



# A laser beam system enables high-speed measurement.

## <Continuous measurement in 1 to 5 seconds>

### ■ Excellent long-term stability

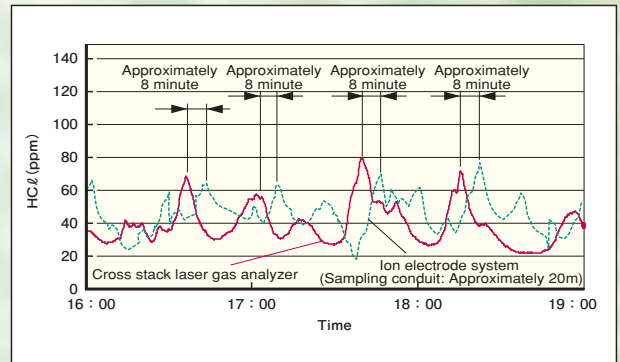
Zero point drift:  $\pm 2\%$ FS

### ■ Easy maintenance

The maintenance time and cost are minimized through the elimination of gas sampling devices.

### ■ Barely affected by the interference of other gas components.

Minimal interference from other crossover gasses thanks to the use of an infrared semiconductor laser, which matches the absorption wavelength of the measuring components.



## ■ Code Symbols

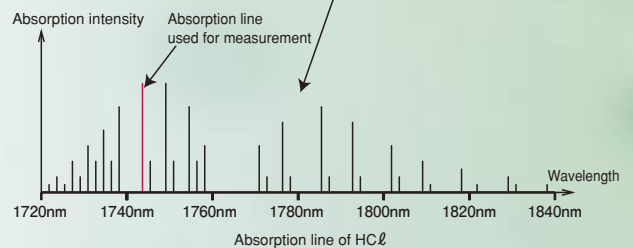
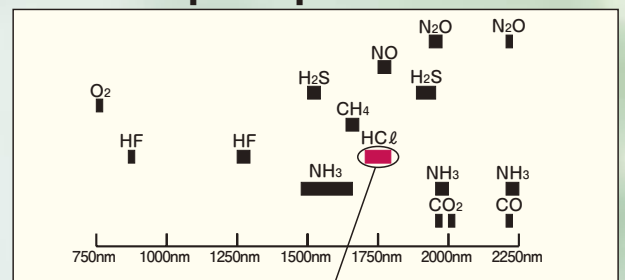
Digit	Specifications	Note	ZSS	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
4	Measurable components CO CO <sub>2</sub> (High-temperature gas) HC <sub>2</sub> HC <sub>2</sub> + H <sub>2</sub> O CO <sub>2</sub> CO <sub>2</sub> (High-temperature gas) CO + CO <sub>2</sub> CO + CO <sub>2</sub> (High-temperature gas) O <sub>2</sub> CH <sub>4</sub> NH <sub>3</sub> NH <sub>3</sub> + H <sub>2</sub> O	Note1		Y	3															
5	Unit ppm mg/m <sup>3</sup> vol%				1 3 5															
6	Measurement range Note: The H <sub>2</sub> O range is fixed at 0 to 50%.	Note2				K Q S L V O 1 T A B C D J E F G H M Z														
7	—						Y													
8	Modification No.							3												
9	Flange rating 10K 50A (JIS B 2212) 10K 100A DN50/PN10 ANSI#150 2B					A B C D														
10	Number of analog output points 2 points 4 points								0 1											
11	Number of analog input points 2 points 6 points								A B											
12	Analog output 4 to 20mA DC 0 to 20mA DC 0 to 1V DC 0 to 5V DC 1 to 5V DC								1 2 3 4 5											
13	Contact input/output Output points: 5, Input points: None Output points: 5, Input points: 3								0 1											
14	Cable length between receiver and control units 5m 10m Others (10m or longer)	Note3				A B Z														
15	Cable length between receiver and transmitter units 2m 5m Others (5m or longer)	Note4				A B Z														
16	Language Japanese English Chinese					J E C														
18	Measured optical path length (Digit of 1m) 0m 1m 2m 3m 4m 5m 6m 7m 8m 9m																			0 1 2 3 4 5 6 7 8 9
19	Measured optical path length (Digit of 0.1m) 0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m																			0 1 2 3 4 5 6 7 8 9
20	Measured optical path length (Digit of 0.01m) 0.00m 0.05m (Selected only when 10m is specified.)																			0 5 9

Note1) Specify the O<sub>2</sub> concentration value corrected to the reference value (0 to 19 vol% O<sub>2</sub>: integer) when O<sub>2</sub> conversion is required.  
Note2) Specify from the maximum/minimum range found from the optical length.  
(Contact us if the value exceeds the measurement range × Stack length [measured optical length].)  
Note3) Cable length between the receiver and control units: Up to 100m (Select either 5m or 10m for 10m or less.)  
Note4) Cable length between the receiver and transmitter units: up to 25m (Select either 2m or 5m for 5m or less.)

## Measurement principle

This instrument uses an infrared semiconductor laser as its light source, and a photodiode for its receiver unit. The gas components to be measured have a waveband for absorbing light unique to each of them (see the following diagram). This waveband represents the collection of a number of absorption lines; one of which is used for measurement. Since measurement is performed within this extremely narrow waveband, it is unaffected by the interference of other gases in principle. Modulated signal amplitude, rather than a change of the optical volume, is used to detect the concentration.

## ● Gas absorption spectrum



## ● Standard accessories

Name	Quantity	SPECIFICATIONS
Bolt	8 (16)	M16×5 (70) SUS (※)
Nut	8 (16)	M16 SUS (※)
Spring washer	8 (16)	M16 SUS (※)
Flat washer	8 (16)	M16 SUS (※)
Companion flange packing	2	See flange rating.
Bolt for angle regulation	6	Hexagonal socket bolt M8×70
Power fuse	2	
Instruction manual	1	

※ The quantity is 16 if B is specified for the 9th digit of the code symbols, and 8 if others are specified. The bolt length is 70 mm if B is specified for the 9th digit of the code symbols, and 55 mm if others are specified. Inch bolts are not supplied.

## ● Spare parts for one year (Type: ZBN1SS12)

Name	Quantity	SPECIFICATIONS
Silicon packing A	2 pieces	For bellows (*ZSSSTK7N3508P1)
O-ring	2 pieces	(ZZP*ZSSSTK7N3505P8)

